

# Climate KIC Contextual Learning Journey

## Low-C agriculture

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Sophie CARTON<sup>1</sup>

Benoît GABRIELLE<sup>2</sup>

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1: AgroParisTech Farm, Grignon

cartonsophie@gmail.com

2: AgroParisTech, Dept. of Agronomy, Forestry and environmental Sciences  
Grignon.

Benoit.Gabrielle@agroparistech.fr

(+33) 6 7310 5724

# Where are we now ?

## INRA

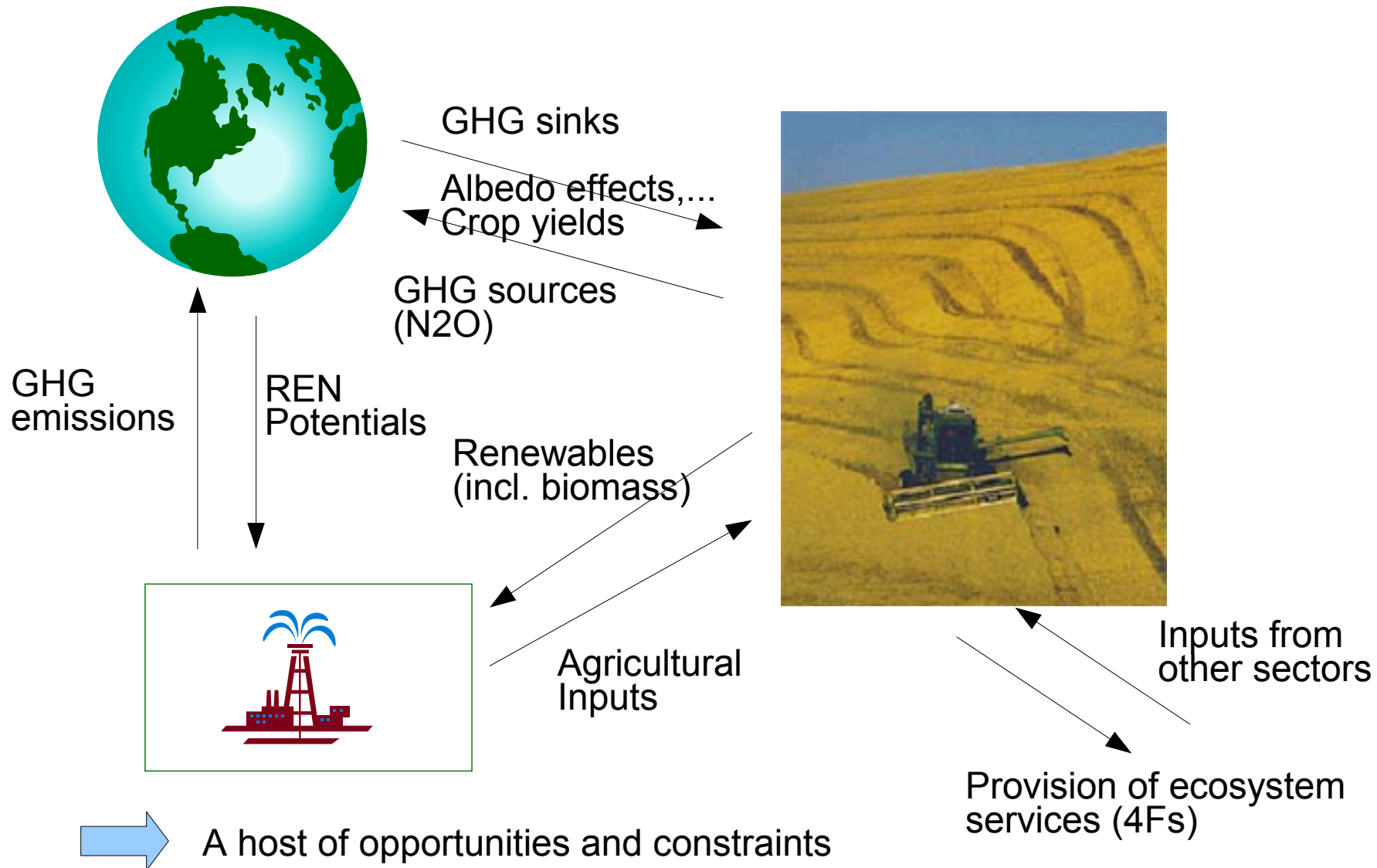
- aka, the French national institute for agricultural research
- Government-funded
- Fields: nutrition, agriculture, environment
- Staff: 8 000
- 21 locations across France (incl overseas)

## AgroParisTech

- aka, the Institute of Life and Environmental Sciences and Engineering
- Government-funded
- Missions: higher education and research
- Fields: agriculture, nutrition & health, environment, food and non-food chains
- Staff: 250 (faculty)
- 9 campuses, 2000 students



# Agriculture, energy and climate



# Objectives of session

- 'Matrix': the Grignon Positive Energy project of the AgroParisTech farm
- Focal points of project:
  - Promote strategies to reduce greenhouse gas (GHG) emissions and energy consumption in agriculture (R&D)
  - Demonstrate technical and economical feasibility
  - Education / awareness (university, schools, general public)
- Learning outcome for today's session
  - Understanding of GHG emissions and reduction options (farming techniques, renewable energy)
  - Awareness of how climate change creates opportunities for new value-chains in the agriculture/environment sectors
  - Ability to communicate on the the role of agriculture in climate change, mitigation options and renewable energy solutions

# Programme

- 9:00: 10:00 – Arrival of students / Business course
- 10:00- 10:45 Introduction - presentation of Grignon Energie + project (S. Carton)
- 10:45 – 12:30 Farm tour :
  - Monitoring CH<sub>4</sub> emissions from farmhouses and cows [ Yves Python ]
  - Energy and water metering in farm operations [ SC ]
  - N<sub>2</sub>O emissions from crops (monitoring, processes, mitigation) [ BG ]
  - Low-C cropping systems [ Pietro Goglio ]
  - Energy crops (miscanthus, switchgrass) and bioenergy [ SC+BG ]
  - Soil carbon dynamics (and sequestration options) [ BG+SC ]
- 14:00 – 15:30 Group work on projects (BG/SC/YP/DT/AL):
  - Projects on bioenergy chains, low-C cropping and livestock systems, low-C food systems (suggested topics)
- 15:45 – 17:00 Presentations + debate on opportunities for new value-chains related to agriculture/climate/energy interactions



# Map of farm tour



# Designing climate-related projects in agriculture

- Topics: bioenergy chains, low-C cropping and livestock systems, low-C food systems... and more!
- Group work (14:00 – 15:30)
  - Individual project ideas (template sheet) [ 15' ]
  - Presentation of ideas [ 5'/pers ]
  - General discussion, selection of 2/3 projects [ 10' ]
  - Preparation of visuals for plenary session [ 20' ]
- ( Break )
- Plenary session (15:45 – 17:00)
  - Presentation of all projects
  - Discussion and debate (overall strengths, weaknesses, feasibility, relevance to GHG mitigation strategies, etc..)
  - Concluding remarks